

Answers to Questions

“Inspection Tips for Gas-Fired Furnaces”  
From March 26, 2014 webinar

**Ben. How long do you typically spend on site on an inspection such as the one you are showing? How long do you spend on the report?**

2 ½ to 3 hours with a summary report printed on-site.

**Can you please email us your disclaimer for the HVAC System?**

You can download that at <http://www.nachi.org/webinar.htm>

**Would be a good program. I agree. What program do you use to generate reports?**

It's no longer available.

**How do you call out rust on the gas meter lines and such? Is it really an issue? Unless of course it is in really bad shape. Needs paint?**

“Cosmetic”

**Do you put that disclosure at the end or in the middle of the report?**

I put disclosure paragraphs at each section of the report.

**When is it to hot to operate a furnace?**

I limit the heating inspection when it's 75 F outside. I'll watch the unit turn cycle to the blower fan turning on, and then I'll shut it down to prevent overheating.

**Do you recommend bird screens in both the intake and exhaust?**

Intake. Both is fine.

**Ben, there's no such thing as an induced draft system.**

Natural draft refers to the burners of a conventional low-efficiency gas furnace. This type of burner is also called an atmospheric burner. With natural draft, we need to keep the chimney hot enough to get those combustion gases out of the chimney. Natural draft burners have no draft fan. A forced draft describes a furnace that has a fan that blows air into the combustion chamber through the heat exchanger and out through the venting system. All oil burners and some gas furnaces use forced draft. Forced draft has the fan before the burner. An induced draft uses a blower fan to pull air into the burner through the combustion chamber and exchanger. The fan is located on the exhaust-side of the exchanger. It also blows the flue gases out through the vent connector pipe. When the induced fan is operating, there is a negative pressure inside the heat exchanger. Induced-draft fans are also called exhaust blowers or power vents. Induced draft has a fan after the exchanger and before the vent pipe. Induced-draft fans are common on mid-efficiency and high-efficiency furnaces.

**Do you recommend a secondary emergency drain pan to be installed underneath furnaces located in areas that will cause damage in the event of a system malfunction?**

Yes.

**This is one of the best webinars that I've seen live thus far. Thank you, Ben.**

Thank you.

**Where is the regulator?**

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I suggest taking the two following online courses (free to members). Every component is explained in detail: <http://www.nachi.org/hvaccourse.htm> and <http://www.nachi.org/advanced-training-inspecting-hvac-systems-online-video-course.htm>

**A critical inspection point should be the blower motor. Many of the motor cooling vents have been completely plugged with lint and debris. This makes the motor run hotter than normal and will shorten its life.**

Yes.

**Do you disclaim that you do not visually inspect the heat exchanger?**

Yes. Watch this video on the heat exchanger: <http://www.nachi.org/inspection-video-ben-gromicko-heat-exchanger.htm>

**Chimney doesn't meet 2/10 rule.**

Type L venting systems should terminate with a listed and labeled cap at least 2 feet above the roof and at least 2 feet above any portion of the building within 10 feet (Type L 2-2-10 rule). Chimneys should extend at least 2 feet higher than any portion of a building within 10 feet, but shall not be less than 3 feet above the highest point where the chimney passes through the roof (Chimney 3-2-10 rule).

**Do you test for carbon monoxide?**

No.

**Pressure relief valve was not within 6 inches of the floor.**

Yes. And check out <http://www.nachi.org/how-to-inspect-water-heater-tanks-online-course.htm>

**In Colorado do they not install traps at the condensate lines?**

They should. These pictures were from inspections in PA.

**Condensate drains should be 2 different drains. Check the pvc pipe into the pump. if it ends below water level in pump it will negate any traps in the drain before there. Especially on hi efficiency furnaces.**

Good.

**Taking a picture with the flash works well down the supply. Aim it slightly down and it will come out perfect.**

Yes.

**When you turn off the electric shut-off switch do you always turn it back on before leaving home or does it matter?**

Yes. Turn it back on.

**When reaching into register boot areas, make sure you wear gloves in case of hyperdermic needles.**

Yes.

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**Are asbestos flues safe?**

EPA says leave the material alone.

**Do you make recommendations for clearances of direct vent discharge above ground?**

Manufacturer recommendations. I prefer to see 24 inches minimum.

**Would be a good practice to use a drone to inspect the roof?**

Absolutely cool.

**Intake is too close to the ground - too close to the expected snow level.**

Agreed.

Can we have these webinars weekly. I find them very helpful.

Yes. Visit <http://www.nachi.org/webinar.htm> and subscribe to our newsletter so you don't miss out on anything.

**I saw the vapor barrier installed wrong side out also. He didn't mention it.**

It's up to the climate and best practices.

**When did you perform these inspections?**

A while back. Still seems like yesterday.

**Why don't you like the vent in the cold air return?**

Only 20 inches away from the induced draft burner system.

**I always recommend in report installing CO detector if not present.**

Good.

**Do you take the lid off the sump drain? How do you know there is no sump pump?**

Yes. But lifting it, if not sealed.

**Do you mention air filter covers that are missing? Doesn't that effect efficiency?**

Yes. Yes.

If a whole house fan has louvers to act as somewhat of a damper/insulator what are your thoughts on that Ben?

This whole house fan was removed and the louvers left in place. In the winter, I seal my louvers and seal and insulate my whole house fan with an insulate upside-down box.

**Authority Having Jurisdiction - only found in the NEC, not IRC.**

I bump into AHJ all of the time, every where in the country. It does not matter to the AHJ if they're mentioned here or there. They are in charge.

**I've enjoyed it. Look forward to the next one.**

Thanks

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**Is this webinar earning CEU's? It's good for ICC Inspectors.**

Good. Members can add credits to <http://www.nachi.org/credits.htm>

**ARE YOU GOING TO ANSWER QUESTIONS!!**

Yes. I was unable to answer them during the Google Hangout. I happened to just lose that screen at the beginning of the session. Not sure why.

**Electric wiring resting on the single pipe flue connector?**

Yes. Good catch. In the report.

**No problem not having a chimney cap?**

Many masonry flues do not have a chimney cap... in my area.

**Tim, I'm a certified HVAC engineer and have been performing reports since 1978 both residential and commercial in the US, Europe, and Canada. With all due respect, it's not me that needs the course.**

It's not a course. There's no assessment, quiz questions, or final exam, and no certificate of completion. Engineering is very different from inspecting. Most engineers are unable to perform home inspections.

**Pulse type furnaces are all about 30 years old. Would you call these out as being past their life expectancy? They have a reputation for cracked heat exchangers as well.**

Yes.

**Gary, I've been doing combustion analysis since 1985 using many manufacturers and models of equipment. If you want to take a good course send me a message and I'll give you a contact. You will learn a lot. It's not me, somebody else nationally known.**

Okay.

Kim - if you email me at [office@sherlockhomesinspectors.com](mailto:office@sherlockhomesinspectors.com) I'll email it to you as I took a picture of it when he posted it.

Okay.

**Hot furnace condensate here in Canada and I believe the US requires by the manufacturer to be cooled below 140F before entering the condensate pump. Have you heard of this requirement?**

No.

How much is the average "Whole House Performance" inspection fee in your area?

Not sure. I've never heard of that type of inspection. I was speaking about inspectors considering their approach to performing home inspections – using a whole-house approach.

He's missed noting missing secondary condensate drain lines three times. That's how rusted heat exchangers most often happen.

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It's often not required by the local building inspector. It's a great catch and I'd recommend it in my inspection report.

**I write the size of the filter and indicate air flow direction on the cold air return next to the furnace.**

Nice.

**Where can I get a 2014 Standard of practice?**

[www.nachi.org/sop](http://www.nachi.org/sop)

**Do you call for heat from all of the thermostats? This I find can be very time consuming...**

Yes. I identify their locations as well.

**Do you test the condensate pump in some way?**

No. I do not.

**I have performed many combustion analysis with yellow flames and guess what carbon monoxide level is low. Many pretty blue flames produce unsafe levels of carbon monoxide. Proved it time and again with bacharach analyzers and Testo equipment. Do not depend.**

Okay.

**85% medium efficiency will produce acidic condensate in the flue more than likely.**

Okay.

**I have seen many 78 percent units with pilot lights.**

Are you sure?

Hey, Ben, is this replacing the GoToWebinar meetings?

Yes. If this works for everyone. Love to hear your feedback:

<http://www.nachi.org/mforms/view.php?id=7385>

**In Southern California, Slab on Grade. Furnace vents through roof, and there is a condensation set up in the furnace closet within a hallway closet. Is it possible or likely to have condensation discharge vertically?**

I've never seen that. There must be a vertical limit to those little condensate pumps.

**A yellow flame is not enough air which will cause flame impingement - then soot - then the deadly Carbon monoxide starts as the flame burns on the soot.**

Okay.

**Where do I go to join and find more info?**

<http://www.nachi.org/everything>